

Claims

1. In a projector having:

an illuminating optical system which emits illumination light;

a color separating optical system which separates the illumination light emitted from the illuminating optical system, into a plurality of colored lights;

a plurality of liquid-crystal display devices which modulate the colored lights separated by the color separating optical system, respectively, so as to form images; and

a color synthesizing optical device which synthesizes the images modulated by the plurality of liquid-crystal display devices;

a projector characterized by comprising:

a plurality of entrance-side polarizer plates which are arranged on light entrance sides of said plurality of liquid-crystal display devices;

a plurality of exit-side polarizer plates which are arranged on light exit sides of said plurality of liquid-crystal display devices;

a plurality of entrance-side heat conduction plates which are arranged on light entrance side faces of said color synthesizing optical device, and on which said plurality of exit-side polarizer plates are stuck, respectively; and

a first heat conduction member which is joined with the entrance-side heat conduction plate where the exit-side polarizer plate generating a largest quantity of heat among said plurality of exit-side polarizer plates is arranged;

wherein said entrance-side heat conduction plate joined to said first heat conduction member is thermally insulated from the other entrance-side heat conduction plates; and

the heat of said exit-side polarizer plate generating the largest quantity of heat can be radiated through said first heat conduction member.

2. The projector as defined in claim 1, the projector characterized in

that a projection-side heat conduction plate is arranged on a light exit side face of said color synthesizing optical device, and that the entrance-side heat conduction plate on which the exit-side polarizer plate generating, at most, a second largest quantity of heat among said plurality of exit-side polarizer plates is arranged is joined to said projection-side heat conduction plate.

3. The projector as defined in claim 1 or claim 2, the projector characterized in that said entrance-side heat conduction plate on which said exit-side polarizer plate generating the largest quantity of heat among said plurality of exit-side polarizer plates is arranged is configured so as to be cooled by natural convection or forced convection, and that the entrance-side heat conduction plate on which the exit-side polarizer plate generating, at most, the second largest quantity of heat is arranged is configured so as to be cooled by forced convection.

4. The projector as defined in any of claims 1 through 3, the projector characterized by further comprising:

first and second housings for optical components, which accommodate, at least, said illuminating optical system and said color separating optical system; and

a second heat conduction member which is connected to said plurality of liquid-crystal display devices;

wherein the first housing for optical components, and the second housing for optical components are thermally insulated from each other; and

said plurality of liquid-crystal display devices are joined to said first housing for optical components, through said second heat conduction member.

5. The projector as defined in claim 4, the projector characterized by comprising:

panel-side heat conduction plates on which said entrance-side polarizer

plate are stuck;

wherein said entrance-side polarizer plates are joined to the second housing for optical components, through said panel-side heat conduction plates.

6. The projector as defined in any of claims 4 through 5, the projector characterized in that said color synthesizing optical device is arranged on either of said first and second housings for optical components, in heat insulation therefrom.

7. The projector as defined in claims 1 through 6, the projector characterized in that said projector further comprises an armoring case which accommodates, at least, optical components on an optical path from said illuminating optical system to said color synthesizing optical device;

wherein said first heat conduction member is joined to said armoring case.